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**REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed June 16, 2005. In the Office Action, the Examiner notes that claims 9-18 are pending and rejected. By this response, claims 9 and 14 are amended. Claims 10-13 and 15-18 continue unamended.

In view of both the amendments presented above and the following discussion, Applicant submits that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102.

It is to be understood that Applicant, by amending the claims, does not acquiesce to the Examiner's characterizations of the art of record or to Applicant's subject matter recited in the pending claims. Further, Applicant is not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

The Applicant thanks the Examiner for granting the Examiner Interview held on August 12, 2005.

**OBJECTIONS**

The Examiner has objected to claim 14 due to use of the phrase "and/or" on line 8 of the claim. In response, Applicant has herein amended claim 14 to replace "having at least one physical link to a backbone of the network and/or a router of other routing domain of the network" with "having at least one physical link to at least one of a backbone area of the network and a router of other routing domain of the network" in order to indicate that the at least one ABR may have at least one physical link to a backbone area of the network only, a router of another routing domain of the network only, or a combination of both.

The Examiner has objected to claims 9 and 14 asserting that steps (c) and (d) are identical and fail to further limit the claim limitations. The Applicant respectfully disagrees. As claimed in Applicant's claim 9, step (b) specifically states: "establishing at least one physical link from the router to at least one non-ABR or at least one ABR of the network." (Emphasis added.) Since, according to step (b), the physical link is

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established to either at least one non-ABR or to at least one ABR, it is clear that step (c) and step (d) cannot both be performed. Rather, step (c) is performed if the physical link is established to the at least one non-ABR, while step (d) is performed if the physical link is established to the at least one ABR.

Furthermore, step (c) states "establishing a virtual link from the router to the backbone through the at least one non-ABR and at least one ABR of an area associated with the at least one non-ABR when, at the step (b), said physical link is established to the at least one non-ABR." The step (d) states "establishing a virtual link from the router to the backbone through the at least one ABR when, at the step (b), the physical link is established to the at least one ABR." Thus, in step (c) the virtual link is established through the at least one non-ABR and at least one ABR, while in step (d) the virtual link is established through the at least one ABR (since there is a physical link to the at least one ABR). As such, Applicant respectfully requests that the objections be withdrawn.

### **REJECTIONS**

#### **35 U.S.C. §102**

##### **Claims 9-18**

The Examiner has rejected claims 9-18 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,699,347 to Callon (hereinafter "Callon"). Applicant respectfully traverses the rejection.

In general, Callon teaches a method and apparatus for routing packets in a network having a connection-oriented subnetwork, a plurality of routers connected to the connection-oriented subnetwork, and a plurality of established virtual circuits. (Callon, Abstract). In particular, Callon teaches a determination as to whether it is feasible to forward a particular packet using an existing virtual circuit or whether a new virtual circuit should be established for forwarding the packet.

Callon, however, fails to teach each and every element of Applicant's invention of at least claim 9. Namely, Callon fails to teach or suggest at least the limitations of "determining that the router is not physically or virtually connected to a backbone area of the network or an area border router (ABR) of the network; establishing at least one

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physical link from the router to at least one non-ABR or at least one ABR of the network; establishing a virtual link from the router to a backbone router in the backbone area through the at least one non-ABR and at least one ABR of an area associated with the at least one non-ABR when, at the step (b), said physical link is established to the at least one non-ABR; and establishing a virtual link from the router to a backbone router in the backbone area through the at least one ABR when, at the step (b), the physical link is established to the at least one ABR." Specifically, Applicant's claim 9 positively recites:

"A method for configuring a router in a communication network using an Open Shortest Path First (OSPF) protocol, comprising:

(a) determining that the router is not physically or virtually connected to a backbone area of the network or an area border router (ABR) of the network;

(b) establishing at least one physical link from the router to at least one non-ABR or at least one ABR of the network;

(c) establishing a virtual link from the router to a backbone router in the backbone area through the at least one non-ABR and at least one ABR of an area associated with the at least one non-ABR when, at the step (b), said physical link is established to the at least one non-ABR; and

(d) establishing a virtual link from the router to a backbone router in the backbone area through the at least one ABR when, at the step (b), the physical link is established to the at least one ABR."

[Emphasis added.]

The Applicant respectfully submits that Callon fails to teach or suggest step (a) of Applicant's invention of claim 9. As taught in step (a) of Applicant's invention of claim 9, a determination is made that the router is not physically or virtually connected to a backbone area of the network or an area border router of the network. In the Office Action, the Examiner asserts that Callon, in Fig. 2 and portions of the specification describing Fig. 2, discloses routers 120, 124, and 126 are not directly connected to subnetwork 100. (Office Action, pg. 3). The Examiner further asserts that this portion of Callon teaches Applicant's step (a) of claim 9. The Applicant respectfully disagrees.

The portions of Callon cited by the Examiner merely show and state that routers 120, 124, and 126 of Fig. 2 are not directly connected to subnetwork 100. Nowhere in the cited portions of Callon, however, is there any teaching or suggestion of performing a step of determining that a router is not physically or logically connected to a backbone area of the network. The mere statement that routers are or are not connected to a

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subnetwork in no way teaches a step of determining that a router is not physically or logically connected to a backbone area of a network. Furthermore, the portions of Callon cited by the Examiner merely discuss the physical connectivity of the routers 120, 124, and 126. There is no discussion in the cited portions of Callon of the logical connectivity of routers 120, 124, and 126. Moreover, even if the cited portions of Callon did discuss the logical connectivity of routers 120, 124, and 126 (which Applicant maintains it does not), such statements would still fail to teach or suggest a step of determining that a router is not logically connected to a backbone area of a network.

Furthermore, Callon is devoid of any teaching or suggestion of any area border routers (ABRs) as taught in Applicant's invention of at least claim 9. According to the Applicants' specification, and as known in the art, an ABR is a router that is connected to more than one defined network area. The Examiner asserts that any grouping of the routers shown in Callon represents an area as taught in Applicants' invention of at least claim 1. The Applicants respectfully disagree. The areas of Applicants' invention of at least claim 9 (e.g., backbone area, an area associated with the at least one non-ABR, and the like) are simply not arbitrary collection of nodes in the network. Rather, the areas of Applicants' invention are specifically defined within a network using various OSPF parameters. In other words, a network area of a network of routers using OSPF is defined in a particular way such that it is improper to arbitrarily select groups of nodes of a network and designate the groups of nodes as respective areas of the network.

The Examiner cites the border routers 112, 114, 116, 118, 122, and 128 on the border of subnetwork 100 for teaching the ABR of Applicants' invention of at least claim 1. A subnetwork, however, such as subnetwork 100 shown in Callon, is not a defined area of a network of routers, as taught in Applicants' invention of at least claim 9. Moreover, even if subnetwork 100 of Callon could be interpreted an area as claimed by the Applicants in claim 9 (which Applicants maintain it cannot), Callon would still fail to teach that the border routers of subnetwork 100 are ABRs. In particular, since Callon would still fail to disclose a second area of the network, the border routers of subnetwork 100 simply could not belong to more than one area and, therefore, could not teach ABRs as taught in Applicants' claim 9. As such, a router on the border of an

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area of a network, i.e., a border router, as taught in Callon, is simply not an area border router, as taught in Applicant's invention of at least claim 9.

Furthermore, the Applicant respectfully submits that Callon fails to teach or suggest step (c) of Applicant's invention of claim 9. As taught in step (c) of Applicant's invention of claim 9, a virtual link is established from the router to a backbone router in the backbone area through the at least one non-ABR and at least one ABR of an area associated with the at least one non-ABR when, at step (b), the physical link is established to the at least one non-AB. As such, step (c) of Applicant's invention of claim 9 teaches that the virtual link is established between the router and a backbone router of the backbone area of the network. By contrast, Callon teaches an ATM backbone having ATM switches, where the ATM switches are connected to routers. Callon is completely devoid of any teaching or suggestion of a backbone area of a network where the backbone area of the network includes at least one backbone router. As such, Callon fails to teach the backbone network or the backbone router as taught in Applicant's invention of at least claim 9.

In the Office Action, the Examiner cites Callon for teaching step (c) of Applicant's claim 9, specifically stating "router 124 establishes a virtual circuit 132 to subnetwork 100 by forwarding packet through router 120 (non-ABR) which is coupled to router 118 (ABR), col. 5, lines 20-24 & col. 8, lines 27-30)." (Office Action, Pg. 3). The Applicant respectfully disagrees. The first portion of Callon cited by the Examiner merely states that "[t]he configuration of FIG. 2 also includes four virtual circuits (130, 132, 134, and 136) established across subnetwork 100." (Callon, Col. 5, Lines 20-24). The second portion of Callon cited by the Examiner merely states that "if router 114 has a packet for delivery to a host connected to router 126, the only existing virtual path is via virtual circuit 132 and routers 118, 120, and 124. (Callon, Col. 8, Lines 27-30).

First, the cited portions of Callon merely state that a virtual circuits exist. A statement that a virtual circuit exists, as taught in Callon, does not teach establishing a virtual circuit, as taught in Applicant's invention of at least claim 9. Second, even if Callon did teach establishing the virtual circuits, the configuration of the virtual circuits as taught in Callon is completely different from the configuration of the virtual circuits as taught in Applicant's invention of at least claim 9. The virtual circuits 130, 132, 134, and

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136 of Callon are configured between edge routers of subnetwork 100 using ATM subnetwork 100 as a backbone. By contrast, the virtual circuits of Applicant's invention are established between a router and backbone router through a non-ABR and an ABR (step (c)) or through an ABR only (step (d)). As such, the existence of a virtual circuit between edge routers of the same subnetwork, across an ATM backbone, as taught in Callon, is simply not establishing a virtual link from the router to a backbone router in the backbone area through the at least one non-ABR and at least one ABR of an area associated with the at least one non-ABR, as taught in Applicant's invention of at least claim 9.

Furthermore, there is no teaching or suggestion in Callon for the condition under which steps (c) and (d) of Applicant's invention are performed. Rather, Callon merely states that virtual circuits exist. Since Callon does not teach establishing a virtual circuit, Callon cannot teach the conditions under which a virtual circuit is established. Namely, Callon is completely devoid of any teaching or suggestion of establishing a virtual circuit based on the establishment of at least one physical link from the router to at least one non-ABR or at least one ABR of the network, as taught in step (b) of Applicant's invention of at least claim 9. As such, Callon fails to teach each and every element of Applicant's invention of claim 9, as arranged in the claim.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added)). The Callon reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

As such, Applicant submits that independent claim 9 is not anticipated and fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder. Furthermore, claim 14 recites features substantially similar to the features of claim 9. Thus, for at least the same reasons discussed above with respect to claim 9, Applicant submits that independent claim 14 is not anticipated and fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder.

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As such, Applicant submits that independent claims 9 and 14 are not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Furthermore, claims 10-13 and 15-18 depend, either directly or indirectly, from independent claims 9 and 14 and recite additional features thereof. As such, and at least for the same reasons as discussed above, Applicants submit that these dependent claims are also not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejection be withdrawn.

### **SECONDARY REFERENCES**

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicant's disclosure than the primary references cited in the Office Action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

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### CONCLUSION

Thus, Applicant submits that none of the claims presently in the application is anticipated under the provision of 35 U.S.C. §102. Consequently, Applicant believes that all these claims are presently in condition for allowance. Accordingly, reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,




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Dated: 9/1/05

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